WEEKLY PROGRESS REPORT

UPSKILL CAMPUS

INTERNSHIP IN DATA SCIENCE AND MACHINE LEARNING

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College – Guru Nanak Dev DSEU Rohini Campus

WEEK 4

➢ CONTENT

- The fourth week of the internship was an interesting one as it was all about machine learning. Topics like machine learning , machine learning algorithms , deep learning , relation between machine learning , deep learning , artificial intelligence was also explained in detail.
- An e-book named 'introduction to machine learning' by Alex Smola and S.V.N Vishwanathan was provided which was very useful for understanding the topics.

- Linear functions in data science were taught. Topics like what linear functions are , linear functions in data science , examples were covered.
- Optimization techniques in machine learning was explained including topics –
    1. Function optimization
    2. Approximation of functions
    3. Model parameters and hyperparameters
    4. Cutting edge optimization
    5. Etc.
- A quiz text was also taken.

➤ CHALLENGES AND HURDLES

- I failed to attempt the test i.e ds quiz-2 , because I was not aware that it had a due date.
  - I mailed upskill campus to look into the matter and help me.

➤ LESSONS LEARNED

- Various machine learning algorithms
- What deep learning is?
- Relation between ML , DL , AI.
- What are linear functions , and some examples.

- Optimization techniques
    1. Function optimization
    2. Approximation of functions
- Model parameters and hyperparameters
- Cutting edge optimization
    1. Gradient descent
    2. Stochastic Gradient Descent
    3. Optimization without Derivatives
    4. Zero-Order Optimization
    5. A momentum-Based Optimizer
    6. Adaptive Learning Rate Method

Week 4 date – 7 July 2023

Date – 12 July 2023